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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/686,123	10/14/2003	Jayshree Seth	58659US002	7617
32692	7590	05/05/2006	EXAMINER	
3M INNOVATIVE PROPERTIES COMPANY PO BOX 33427 ST. PAUL, MN 55133-3427			COLE, ELIZABETH M	
			ART UNIT	PAPER NUMBER
			1771	

DATE MAILED: 05/05/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/686,123

Applicant(s)

SETH ET AL.

Examiner

Elizabeth M. Cole

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3 and 5-42 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,3 and 5-42 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: ____.

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1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/15/06 has been entered.

2. Claims 1,3,5042 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 1, it is not clear what is meant by the limitation that the protrusion(s) "extend out a first face of the composite". Does this mean that the protrusions extend past the fibrous substrate? Since the claim also specifies that the faces of the cleaning sheet are formed from the backing sheet it is not clear how the backing element can be embedded into the fibrous sheet if the faces of the cleaning sheet are formed from the backing element but yet the fibers of the fibrous sheet are present on the faces of the backing element. It seems that the faces of the cleaning sheet would be formed by either the protrusions or the fibrous sheet, depending on which extended the farthest, not the backing element.

3. Claims 1, 3, 5-42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kacher et al, PG Pub 2003/0049407 in view of Schortmann et al, U.S. Patent No. 4,537,819 and Schlegel, Jr. et al, U.S. Patent No. 3,638,270. Kacher et al discloses a disposable cleaning sheet which comprises protrusions having the claimed shape. See figures 7-13. The protrusions can be incorporated into cleaning sheets formed from

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nonwoven fabrics. See paragraphs 0043-0049. The protrusions can cover from 5-110 percent of the surface area, (paragraph 0060), and can have a height of 0.5-80 mm.

See paragraph 0072-0084. The protrusions can be made from the claimed material, (see paragraph 0054). The protrusions can be formed integrally with a sheet of material which corresponds to the claimed strands. See paragraph [h 0105. The strands comprising the integrally extruded protrusions can be affixed to a substrate. See paragraph 0112. The strands would necessarily have a rectangular shape. See figure

1. The substrate can be a nonwoven fabric and can comprise a scrim. The nonwovens can comprise synthetic and natural fibers and comprise carded nonwovens. The nonwoven substrate can have a basis weight of 15-195 grams per square meter. Additives can be added to the nonwoven to enhance the hydrophobicity or hydrophilicity of the nonwoven. See paragraphs 0043-0049. Kacher differs from the claimed invention because Kacher does not teach that the cleaning elements comprising the strips with the protrusions should be embedded in the nonwoven. Schortmann et al discloses an insert which comprises a plurality of protrusions which is embedded in a nonwoven fabric. The fabric can be formed from either natural or synthetic fibers, and may comprise carded fibers which would not include additional bonding means. The fabric can have the claimed basis weight. See col. 3, line 35 – col. 4, line 48.

Schortmann et al teaches that it is advantageous to embed a protrusion supplying material into a nonwoven fabric so that the more abrasive aspects of the protrusions are present on the surface but at the same time the softness and absorbency of the nonwoven fabric also present. See col. 3, lines 15-34. Therefore, one of ordinary skill

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in the art would have been motivated to embed the protrusion supplying strips of Kacher into the nonwoven fabric by the teaching of Schortmann that this configuration provides the best cleaning and absorbing material.

4. Kacher also differs from the claimed invention because while Kacher teaches that strips can be applied to the nonwoven in a variety of configurations, Kacher does not explicitly teach cross-laying the strands. However, note that Kacher discloses that the orientation of the strips and the protrusions is directly related to the cleaning ability of the sheet. See paragraph 0115. Schlegel, Jr. et al teaches that cleaning elements which comprise protruding cleaning elements can be formed so that they are disposed in a woven configuration. See figures. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have disposed the strands in a cross laid configuration. One of ordinary skill in the art would have been motivated to employ a crosslaid configuration because Kacher teaches that the orientation of the strips and protrusions is directly related to the cleaning ability and therefore, Kacher teaches that the orientation of the strips and protrusions is a result effective variable and it therefore would have been obvious to one of ordinary skill in the art to have selected the optimum orientation of the strips through the process of routine experimentation which resulted in the desired cleaning ability. Further, Schlegel, Jr. teaches that the substrate from which cleaning elements protrude can be configured in a woven or crosslaid configuration. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have employed a cross laid configuration, motivated by the teaching of Schlegel, R., that such a configuration was known in the

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art as suitable for forming the layer of strands from which projecting cleaning elements protrude.

5. Applicant's arguments filed 2/15/06 have been fully considered but they are not persuasive. Applicant argues that Karcher is not combinable with Schortmann because they teach entirely different methods to attach elements to a nonwoven web since Kacher attaches discrete strips and does not embed the cleaning elements within the nonwoven cleaning sheet. Applicant argues that Schortmann does not teach a generic method of incorporating protrusions into a nonwoven web but only teaches combining a reticulated foam which is embedded within the nonwoven web and that it appears that the foam would break up during hydroentangling which is antithetical to the invention of Kacher. However, the examiner disagrees because while it is true Kacher does not teach embedding the cleaning protrusions within the nonwoven, Schortmann does teach embedding protrusions which act as cleaners or scrubbers within a nonwoven web, in order to gain the advantages of both the scrubbers as well as the softer nonwoven. While Schortmann does use a reticulated foam to form the protrusions, Schortmann also teaches that the advantage of incorporating the stiffer protrusion containing material into the nonwoven cloth is that it produces a cloth having both scrubbing, cleaning and absorbing abilities. See col. 2, lines 1-10. With regard to the argument that Schortmann requires hydroentangling, the hydroentangling is employed in Schortmann in order to combine the two materials and also to form the protrusions. Since Kacher the protrusions are already formed, the hydroentangling would either not be necessary, or if used to combine the fibrous element with the strips would not break

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up the strips since the strips in Kacher would be stronger and have more integrity than the reticulated foam of Schortmann or even the fibers of the nonwoven since they would be thicker and thus stronger. With regard to the particular orientation of the strands, as set forth above, Kacher teaches that the orientation of the strands is directly related to the cleaning ability of the sheet. Further, the Schlegel reference also teaches disposing projection producing elements in a cleaning sheet in a cross laid configuration.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth M. Cole whose telephone number is (571) 272-1475. The examiner may be reached between 6:30 AM and 6:00 PM Monday through Wednesday, and 6:30 AM and 2 PM on Thursday.

Mr. Terrel Morris, the examiner's supervisor, may be reached at (571) 272-1478.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

The fax number for all official faxes is (571) 273-8300.


Elizabeth M. Cole
Primary Examiner
Art Unit 1771

e.m.c